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Educação e Tecnologia *Education and Technology* **abordagens críticas** *critical approaches*

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From mediation to datafication: theorising evolving trends in media, technology and learning

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This position paper aims to unravel the interlacing of learning theories and media theories in order to map out how the link between media, learning and technology has been argued in related research and scholarship. Taking into account evolving trends and trajectories in the fields of digital networked technology and education since the 1990s, it argues for the multiple articulations of mediation as a core component in competing discourses about competence formation. These are centred on three evolving and interrelated trends: a) the increased emphasis on computer mediated communication and collaboration as shapers of meaning and improvement; b) the introduction of media logics in particular fields and domains of education; c) datafication and metrics as means of both self-organization or management and cross-promotional strategies. While several scholars within critical media literacy traditions and critical educational technology have dealt with evolving trends in technology and competing discourses as writing passage from the information to data-driven society, developing a fuller sense of these trajectories can enable us to chart out interconnected threads of power, conflict and subversion that

frame learning as a competitive endeavour and reconfigure the expansion of education in broader areas of society.

Keywords: Datafication; Digital Education; Learning Analytics; Openness; MOOCs; Critical Media Literacy; Digital Culture.

I. Introduction

Over last couple of decades, digital media and social networks have become embedded in our everyday lives, and are part of broad-based changes to how we engage in knowledge production, communication, and creative expression. Several scholars from both the Learning Sciences and Media Studies have approached this embeddedness as a site of opportunity and ambiguity, pushing the boundaries of institutions, professional communities and the students that inhabit these (KELLNER, 2004; GOODFELLOW; LEA, 2012; SELWYN, 2013; ALEVIZOU, 2015a). As we are witnessing a new era of post-truth and mis-information, we are too reminded that new communication order(s), new forms of practice and new datified relations create a novel sense of the multi-directionality that digital networked technologies have in learning about the world and in shaping the 'texture' of our daily lives (SILVERSTONE, 1999); this multi-directionality begs to question further how to conceptualise the affordances of both the 'digital' and 'media' for understanding the 'socially' situated learning processes within wider mediation ecologies.

Almost of a decade ago, Kristen Drotner (2008) put forward a requirement for unravelling the intersections of learning and media theories in order to map out the socio-cultural enablers and constraints of the processes involved in competence formation. She reviewed the paradox of digital competence formation (aka digital literacy), set by discourses on the information society and knowledge economy, highlighting a renewed contestation of what counted as legitimate forms of communication, participation and

knowledge afforded by digital story-telling practices, which are against those which institutional frameworks best promote as relevant forms of knowledge and learning (DROTNER, 2008, p. 65).

While Kristen Drotner's key concern was with the implications of young people's emerging digital cultures for the institution of the school, or the lag between creativity learned in, and via, digital media, my focus in this chapter is upon higher education and the institution of university. Certainly digital 'literacy' continues to be at the intersection of technology and learning across the different fields of education, and I use the concept of mediation/mediatization to refer to ways in which social practices (and socially mediated processes) within cases of open access /open education are situated within wider shifts across the digital culture and education.

As the evolving trends in technology and competing discourses are writing a passage from 'information' to 'data-driven' society, with an obsession with likes, ratings and metrics, post-truth and a distrust towards expertise ever more prominent, the interlacing between media, algorithms and education strategies becomes more complex than ever. In addressing this complexity, I use openness as a modality which allows us to revisit this interlacing between learning and media theories. I use these interlacing to examine three interrelated historical trends: a) the increased emphasis on computer mediated communication and collaboration as shapers of meaning and competence formation; b) the increased ubiquity of media logics in particular fields and domains of education; c) datafication and metrics as means of both management and individualised practice around self-organized learning.

I believe that developing a fuller sense of these trajectories can enable us to chart out interconnected threads of power, conflict and subversion that frame openness both as a competitive and collaborative endeavour to reconfigure the expansion of

education/pedagogy in broader areas of society across the Global North.

II. Beyond technological openness

For some time during the early 2000s the use of digital technologies in education was a major focus of debate about the future of higher education, which was, in turn, polarized in two major ways. For some enthusiasts, the virtualization of the university meant replacing ‘physical processes with new, fragmented processes around the delivery of teaching and learning which could be accomplished over media and technological networks’ (KATZ; OBLINGER, 2000, p. 2). Others saw the emphasis on technological ‘resources’ as tied to instrumental visions of ethics, global competitiveness and the marketization of higher education (NOBLE, 2002). Some critical theorists of technology then questioned the polarization of debates addressing different aspects of technical inevitability (or determinism), arguing that such polarization neither left much space for other developments and alternative socio-technical movements in open and online education, nor it could mobilize agency in contexts associated with commons communitarian paradigms (HAMILTON; FEENBERG, 2005; FEENBERG, 2005; BENKLER, 2005). They therefore considered the development of the Open Access/Educational Resources (OER) movement alongside that of free, digital culture to occupy that ‘third space’.

Historically, the term OER has been used to refer to the use of popular digital networks (e.g. WWW) for sharing ideas and openly publishing teaching materials, as well as creating infrastructures and spaces for learning inside and outside formal educational settings. Adopting several of the *communitarian* ideals from the Free (*Libre*) and Open Source Software and Open Content movements, several programmes have emerged since 2003 and an international

strategic alliance was formed with numerous stakeholders from educational, cultural, technology and media organizations as well as public and philanthropic bodies (ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, 2007; THE CAPE TOWN OPEN EDUCATION DECLARATION, 2007).

Practically, OER 'genres' have ranged from institutional projects of open access courseware content (OCW) to online learning environments mediating public scholarship and pedagogical metadata (Open Learn), and from lecture podcasts on popular platforms such as iTunesU and YouTubeEdu to, more recently, educational start-ups promoting Massive Online Courses (MOOCs) under the brand names of 'Ivy League' universities, addressing learners as active co-producers of (their own) learning and yet consumers of accreditation. They have also included alternative, grass-roots or radical pedagogy experiments using the social web to offer alternative routes to learning through (with and about) digital culture commons (COTÉ et al., 2007; ALEVIZOU, 2012; WINN, 2012).

With the infrastructural and interfacial shifts having taken place between the earlier visions of an Open Web and the current enclosure of technology giants like Google and Apple, social media platforms and smart phone apps, new communication orders, forms of content, knowing and relationships are emerging from the harvesting and spreading of modes of mass self-communication: Big Data and the emerging data culture is again seen as a site of ambiguity regarding the form and practice of education not only at the technological, institutional and individual levels, but also at micro-levels of individual learning and learning theories (SELWYN, 2007).¹ As the fusing of digital media culture with education had created a domain of tensions and contradictions on many fronts, 'from the allocation of resources and maximization of profit, to concerns with epistemology or equality of educational

1 See also Sefton-Green (2011) in relation to digital education.

opportunities' (SELWYN, 2013, p. 2), the newest iterations of datification or informatization of pedagogy stemming from trends to mining, aggregation, measurement and analytics, gives new meaning to the tensions that emerge as education becomes a source of value within the so called 'contribution' or 'sharing' economy.

Openness, I have argued elsewhere (ALEVIZOU, 2015a; 2015b), has been at the centre of a repertoire of symbolic and material factors conditioning social (and public) relations in digital/online/datafied education. I used political economy approaches to argue about the use of digital openness, as a source of value and discursive currency linking the mediation of technology policy, content outputs and the environments or practices for 'public learning' and public education.

In other words, technological (infrastructure, interfaces) and socio-political components of openness, which were associated with the emergence of digital culture, would come at the centre of cultural, institutional and textual mediation conditioning not only the social (and public) relations in digital/online education, but also wider trends surrounding the informatization of pedagogy, or the pedagogization of society as we are evidencing today (SELWYN, 2013). In what follows, I review how three co-evolving trends linking digital openness, competence and competitiveness with learning processes and institutional structures in education can be viewed through the lens of mediation /mediatisation theories.

a. Trend 1: Computer mediated communication and the mediation of openness as improvement

During the 2000s, several stakeholders from philanthropic funding organizations articulated a vision whereby educators and learners use freely available media to co-produce an evolving knowledge base founded on shared and mediated reflective

practices. Foundational discourses of the OER movement reused Communitarian aspects of Internet and Commons based peer production (BENKLER, 2006), such as *networked sociality* and *transparency*, to bring forward not just access to wider availability of resources, but also an element of the processes of continuous improvement from interacting with others in the production of public education goods. By placing an emphasis on the possibility of online environments to act as *participatory* infrastructures and mediating artefacts for knowledge sharing *and improvement of* teaching and learning, a learning process was promoted (IIYOSH; KUMAR, 2008). Seeking to eschew technological determinism, *community* was used as a central discursive trope for mediating pedagogical knowledge and conditioning the processes of 'learning about learning' (BROWN; ADLER, 2008): '[a] key tenet of open education is that education can be improved by making educational assets visible and accessible and by harnessing the collective wisdom of a community of practice and reflection' (IIYOSH; KUMAR, 2008, p. 10). These notions utilized varied agendas, ranging from a notion of openness as a boundary state – a flexible provision for 'constantly improving professional or institutional practices' – to the socio-cultural and historical transformations that digital media technologies (and culture) affords in relation to learning.

With regards to the second aspect, mediation from the learning sciences has some provenance here. Academic analyses of learning in relation to digital media have drawn upon cultural and historical constructivism as well as behavioural approaches inspired by Lev Vygotsky's (1978) theory of mediating artefacts, to discuss the constitutive positions occupied by the communicative processes that take shape through technological means, and the possible socio-cultural transformations brought about by these practices. A key interest in this theory is placed on how links are made between subjects and objects, between inner (behavioural or psychological) states and external practices. *Mediation* is the term used for these

bridges, and it comes through the handling of tools, as part of socially situated practices.

Inspired by the categorization of mediating tools as material and behavioural, a series of theoretical developments has developed, ranging from Engeström's (1987, 2001, 2007) systems-oriented Activity Theory (and the several generations thereof) to socio-cultural theories emphasizing the role of different forms of immaterial tools for the development of literacy.²

More recent approaches have drawn on social theories of learning, such as the 'situated learning' approach. From this perspective, learning is seen to be embedded in social interactions (or 'communities of practice'), and it can take the form of a kind of apprenticeship. Studies on online social networks stemming from this theory also suggest that learning entails the development of a social identity, and a process of enculturation framing the conventions of *participation* (BUCKINGHAM, 2008; CONOLE; ALEVIZOU, 2010; ALEVIZOU, 2015b), and a sense of developmental competence framing *learning processes*. In the relatively long cycles of expansive learning (ENGESTRÖM, 2001), motivational and qualitative transformations, and the questioning or deviation from established norms, sometimes escalate into a deliberate collective change effort, where improvement or critical reflection occurs (ALEVIZOU; GALLEY; CONOLE, 2012). There are some similarities to Wenger's approach to community of practice here. Wenger (1998, p. 5) uses the term 'community', he says, as 'a way of talking about the social configurations in which our enterprises are defined as worth pursuing and our participation is recognizable as

2 This type of approach has inspired the late 90s, early 2000s design of contemporary 'drill and skill' software. Again, most enthusiasts for computers in education tend to espouse a form of 'constructivism' that emphasizes active, student-centered learning rather than instruction. Säljö's work on computer assisted learning, for example, has been instrumental for putting forward the link between today's complex tools and media environments for situated cognition (cited in DROTNER, 2008, p. 54).

competence'. Wenger is concerned with the social production of value and authority (COULDRY, 2008), and these must be crucial to the broader processes of 'mediation' in which open education operates – as a provision whereby both the contents and the environment of learning can be transparently accessed.

Several projects were initiated during the mid 2000s, with one of the most prominent, *Open Learn*³, created around the idea of developing dialogical, reflective platforms and social environments, beyond just delivering content repositories, promising to provide powerful means for the reorganization of both learning and professional development. Many have questioned the degree to which these online environments actually promoted the cultural mediation of pedagogy as a 'third space' or whether such platforms for sharing public 'reflection' through self-communication processes offered a variable space for cultural engagement and critique of power structures and hierarchies of established educational (or indeed technology) institutions. Some egalitarian approaches sought to connect sociocultural theories of learning with cooperative models of education, alternative curricula and radical pedagogies⁴, which could emerge from engagement with digital culture (contents and processes). Some of those examples attempted to integrate the processes of digital media production into education and, to an extent, to 'curricularize' activities of digital culture through the formation of learning hubs, self-study communities and peer evaluation. In those models, knowledge could be built upon cultural mediation and through a constructivist pedagogy based on learning-by-doing and peer evaluation. Such approaches sought to promote an ethical economy through practices of contribution, whereby *value* is located in the social relations of participatory learning and communicative labour. Others sought to call for an understanding of an Open Web as a

3 Available at: <<http://www.open.edu/openlearn/>>. Accessed on: 02 February 2017.

4 For details on genres and trajectories, see Alevizou (2015a).

space for cultural citizenship, public scholarship, cross-cultural recognition, creativity and alternative pedagogy.

Seeing these case as evidence of a trend whereby digital mediation is simply a key for competence formation or improvement is restrictive. Certainly, digital media literacy scholars have emphasized the need to situate not just the processes of meaning making through digital means, but also the outcomes and outputs of media(tiz)ation as practice. Looking at the aspects of media practice /media forms, as it has been developed from media sociology, can thus open up this conceptual understanding. *Media as practice* (COULDRY, 2003) draws anthropological attention to the diverse range of media oriented practices that go beyond those in which people are constituted as audiences or data subjects. In this sense, a view of mediation from a media and communications perspective enables us to think of mediation as a process that can support or facilitate both *communicative action* (action seeking to achieve understanding) and the *representation of information* (SILVERSTONE, 2005). With this in mind, however, we are reminded that mediation involves *dialectical processes* through which media institutions, logics and interfaces are involved in the general circulation of symbols, or the functioning of culture and social life (see SILVERSTONE, 2005; COULDRY, 2008). And this brings me to elaborate more on the next trend and the interplay between mediation – as a cultural, textual and institutional process – with mediatization.

b. Trend 2: Media logics in domains of education

John Thompson (2005) was among the first media sociologists to recognize the centrality of pedagogical media (in the form of syllabi, textbooks or courseware), alongside other forms of scholarly knowledge and scientific research, to higher education institutions' symbolic capital – the 'accumulated prestige, recognition and reward'. The 'remediation' of pedagogical knowledge (context,

labour and outputs) may not only revolve around the embeddedness of media technologies in education; it also relates to the ways in which the communicative embeddedness of global media policies (and culture) affect the field of education.

Nick Couldry (2008) refers to this as mediatization, a term used to describe the transformation of disparate social and cultural processes into forms and formats that are suitable for media representation and repurposing. Mediatization approaches emphasize particular transformative logics when media infiltrate particular processes, objects and fields (COULDRY, 2008, p. 376 referring to HJARVARD, 2004; KROTZ, 2001), i.e. the spreading of media forms to spaces of contemporary life, transforming core elements of a cultural or social activity (including those in education) that are required to be re-presented through media forms. This approach may be used to shed light upon some of the consequences of dependence of (digital) education upon media exposure, and in turn, describes the transformation of many disparate social and cultural processes into forms or formats suitable for media representation. The embeddedness of digital profiles (akin to social media profiles) in online learning platforms and in digital scholarship may be considered as examples here.

Approaches to mediatization then refer to the adaptation of different social fields or systems (in our case, education) to these institutionalized rules. Yet a lot more can be further analyzed if we replace the notion of media as institutions with the institutionalized embeddedness of media technologies as formats for representation and staging. In this sense, mediatization may indeed provide a useful framework for conceptualizing the ways in which educational activities (or pedagogical knowledge) and research are communicated, beyond the standard formats of the textbook of the scholarly book/article respectively. Change in this respect goes beyond understanding the increasingly closer connections between media or technology organizations and educational institutions; it is

perhaps useful for understanding ‘the relevance’ and role of educational institutions as they emerge to become players in the *media field*. This requires us to look at the evolution of digital and openness beyond a particular technological momentum.

A number of changes, intensified within the education field, can help us contextualize this further. What had been the main task for educators within the distance learning contexts, for example, has now become part of mainstream impact strategies: communicating research through teaching and learning activities has become both a strategy for engaging diverse audiences and attracting more students. When academic scholars as educators are invited to make lesson plans, instructional designs other classroom pedagogical activities and curricular resources available for publication in wider contexts, they are also invited to deploy features, norms and standards that may make these practices ready for remediation or repurposing. Some formats, such as podcasts, remediate lectures and promote a broadcast model for pedagogical content by some higher education organizations through platforms such as iTunesU and YouTube.edu. We have also entered the race for ‘traceable’ impact in the form of downloads and audience ratings. But this implies some of the broader consequences of education upon media exposure, reshaping interaction across several fields of activity.

As I mentioned in the previous section, the socio-technical praxis of openness maybe more multifaceted and ambivalent, conditioning the ways in which symbolic capital and social relations in education can be processed. Here I bring another example which refers to emerging currencies and the ambivalent nature of openness in the mediatization of Open Education policy.

A report commissioned by the UK government in 2009 locates the pilot phase of OER projects, for example, both as a response to changes in the global media/technology landscape and as a way of further liberalizing the higher education sector, ‘rationalized’ by a

rhetoric of *access, democratization, choice* and *global competition* (WINN; NEARY, 2012):

... technology is changing universities as they become just one source among many for ideas, knowledge and innovation. But online tools and open access also offer the means for their survival... Through their institutional capital, universities can use technology to offer more flexible provision and open more equal routes to higher education and learning. (DEMOS, 2009, n.p.).

A similar report produced by Universities UK, IPPR and Pearson Education in 2013 perpetuates the same rhetoric (RIZVI et al. 2013). Open access and MOOCs are described in revolutionary terms as promoting social objectives of widening participation by the 'disadvantaged', with the 'unbundling' of activities advocated as a strategy for efficient marketization, quality assurance and the generation of revenue from publicly provided services.

While the first report presents openness as embedded in a technological momentum (and the communicative embeddedness of social media), the second presents technology as an antidote to 'global crisis' and MOOCs as a 'disruptive innovation' set to challenge the monopoly of universities. Both reports echo the rationales that have historically been used to instrumentalize the integration of technology in education in the United Kingdom and globally: *expansionism, efficiency, economic accountability (cost effectiveness)* and *political accountably* (widening participation)⁵. These norms have defined debates, advocacy and intervention, policy and programmes of state and private philanthropic funding in many national and international initiatives aligned with the development of open educational resources (HYLÉN, 2006; HYLÉN et al., 2012; ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, 2011) and have helped, I would argue, to

5 Cf. Alevizou, 2015a.

perpetuate the dual (or antagonistic) purpose conditioning openness through educational resources: economic freedom and political accountability.

As these agendas coalesced, however, they produced a less apparent contradiction: the simultaneous ‘bypassing’ and endorsement of institutional authority as a source of educational provision, which can be correlated with wider discourses of digital disruption (HALL, 2015). One outcome of this contradiction has underpinned the values framing wider agendas for expansion and visibility. In other words, *openness has been used as a flexible currency* for widening participation and effective marketization of education.

We can see how the specific features of certain media have a contextualized ‘consequence’ for the overall process whereby sociocultural reality is constructed in, and through, communication (COULDRY; HEPP, 2013). The communicative construction of open education through media formats and organizing categories has been used, I would argue, to address *communitarian* attributes of open access *transparency*, *community*, *collaboration* but also, *improvement*, *social production of value* and *recognition*, inscribed in essentialising notions of open software and free digital culture mediated through global communication infrastructures. This juxtaposes a vision of ethics around educational entitlement, wider participation and alternative curricula notions of techno-economic efficiency that put forward neoliberal appropriations of education as public good. While the Open Education movement has proposed a more open use of technologies in order to transform some of the social relations of education, its institutionalized form, in terms of ‘resources’, has reinforced some of the attributes of digital technology in order to redefine ‘mass production’ and efficient promotion, a process involving the reification of such pedagogical resources as *media assets*, *technical codes* or ‘public access’ commodities, which can be freely circulated and regenerated

through liberal property laws (e.g. Creative Commons); these guarantee a level of autonomy to digital objects over and above the rights (and labour) of teachers and learners.

We can also use these notions of mediatization as a way to understand media coverage, of the now old MOOC phenomenon. Between 2011 and 2013, a new wave of initiatives, platforms and formats promoting partnerships between educational institutions and high technology start-ups emerged. An example is EDx – a collaboration between MIT and Harvard⁶ blended the existing personal learning at-the-point-of access (OER) with a community-supported experience leading to an (optional, low cost) MIT certificate of completion. Similar are Coursera⁷ and Udacity⁸, which sprung from initial pilots at Stanford. In the United Kingdom, FutureLearn emerged as a private company owned by the OU and offering free short courses from ‘leading universities and cultural institutions’ from around the world.⁹ This model has largely ignored the more radical aspects of the earlier or radical pedagogy examples (or indeed MOOCs as I mentioned in the previous section), with course delivery closer to more traditional models of e-learning and assessment.

There are two important points to be made about the ways in which openness has been used as a novel currency in the media-digital education blend. The first concerns mainstream press coverage. The language of revolution and the idea of the MOOC as ‘a game-changing innovation for Higher Education’ (LEWIN, 2012) has positioned these start-ups almost as an answer to some of the questions posed by those linking edu-hacking with edu-

6 Available at: <<http://web.mit.edu/newsoffice/2011/mitx-education-initiative-1219.html>>. Accessed on: 03 February 2017.

7 Available at: <<http://www.coursera.com>>. Accessed on: 03 February 2017.

8 Available at: <<http://www.udacity.com>>. Accessed on: 03 February 2017.

9 Available at: <<https://www.futurelearn.com/about>>. Accessed on: 03 February 2017.

entrepreneurism. Although such accounts are widely criticized¹⁰, they have given rise to a new wave of neo-liberal 'educational thinking' and applications by higher education incumbents. As with the mainstream press coverage, the frames of seminal MOOC documents address certain themes surrounding: the augmentation of current modes of instructional delivery; and self-directed learning juxtaposed with institutional endorsement and accreditation as well as quality assurance. In a sense, this brings to the fore Couldry's (2012, p. 149–50) argument that the media's relationship with education can be understood as a cross-field effect and, in particular, one that could be illuminated by the concept of media meta-capital. Particularly important here is the interface between media and education, because governments use *media coverage* to develop, promote and monitor education policy. But the issue goes beyond this. This multi-directional media transformation of the public face (or *façade*) of the education complex – as a system, an institution and a space – is certainly indicative of transnational tendencies (and pressures) towards branding within the higher education sector; these are manifested, I would argue, both through curricular mediatization and through cross-media cultural organizations and technology partnerships.

c. Trend 3: Datafication of learning

This last point concerns, assumingly, the potential of technological mediation for supporting better pedagogy and offering users (both teachers and students) a range of institutional and informal networks, content and tools to extend their autonomy, reflexivity and identity.

For some strategists, MOOC platforms use social media and networks to promote an improvement in learning and teaching processes: 'we have created a global system for academic

10 E.g. Bulfin et al., 2014

volunteers, a space where students, subject experts, apprentices and self-directed learners can take control of a process of self-validation' (ALEVIZOU, 2015a). Certainly frames like this seek to privilege a wider conceptual shift 'surrounding the learnification of education' (KNOX, 2013; 2014) through learning analytics stemming from Big Data tracing the interactions of the thousands who start taking (rather than completing) these courses. Strategies to codify social relationships and lived experiences by extracting 'value from social analytics and sentiment analysis' are often combined with automated systems of assessment (BALFOUR, 2013).

We can see these data as mass mediated interactions, whose exemplary product is mass self-communication. Following this logic, we can now begin understanding how learning and social analytics are the new trend with the media(ti)sation ecologies of education.

Attaching pedagogical proficiency to the prestige and measures of institutional accreditation, such initiatives have downplayed teaching methods and teachers' expertise, reducing the teacher's responsibilities to environmental facilitation (KNOX, 2013, p. 825–26) and measured public outreach. And while some research has emerged reporting that participation in OER or xMOOC initiatives improves educators' pedagogical approaches (ALEVIZOU, 2012), professional practices – 'teaching teachers' as Pope (2014) notes – or dips into ideas akin to public scholarship, insights on the systemic and ethical considerations that MOOCs may have in re-examining more traditional campus-based learning, or indeed the MOOC epistemology, pedagogy and cultural hegemony, are still slowly emerging (MARSHALL, 2014; EBBEN; MURPHY, 2014). In fact, reviewing insights on educators' views about the role of MOOCs, Baggaley (2014) raises the concerns that many educators and education researchers share, drawing a powerful analogy between the supersizing of food courses (McDonald's) and educational courses (MOOCs). Likewise, there is an inscribed assumption that this *autonomous learning* (and *autonomous learners*) have the

freedom to manage their own educational development through mediated activities without facing any difficulties, with some educators beginning to question whether ‘massiveness’ is helping or hindering student learning (KNOX, 2014).

These novel initiatives seek to put an exchange value to gig knowledge-economy resources through the provision of learning spaces and educational assets used by both students and junior faculty to respond to demands of twenty-first-century capitalism: information work, distributed work, self-managed teams and learning. Despite the ‘open’ nomenclature, materials are not openly licensed, and some instructional xMOOC-style providers have been experimenting with charging for certification (EdX, Udacity). Again these genres suggest that major stakeholders have a tendency to revert to the authority of organizations, systems and structures in the production of reliable academic ‘content’ and in their novel tendencies to commodify the ‘experience’ of learning in public mediated spaces. Who aggregates the outputs of social actors interactions, and what is their capacity to use and interpret the data they generate and to what ends, especially if they are object of analytics?

We can begin slotting back the tensions between agency and power that I have discussed in the previous sections by approaching the ambiguity of social and learning analytics. A social analytics approach aims to capture how particular actors reflect upon, and (maybe) adjust their online presence and the actions that fit into it, through the use of analytics (COULDRY; POWELL, 2014, p. 2). We are reminded here of the dominance of technology *cum* media platforms like Google, Facebook and Twitter, who work automatically with algorithms, allowing users only limited degrees of manual adjustment or interfacial openness beyond the apps they often also own (VAN DIJCK, 2013; DEAN, 2004). But it goes beyond dominant platforms, and also towards the degree to which the higher education organisations’ online presence (numbers using

free online courses, their characteristics, types of interactions with their content and so on) and approach to social analytics implicates to the object and nature of datified learning (e.g. how an organization is 'judged' or promoted through its online visitors, students, policy makers). So here we may use the tendency to the datafication of education and the pursuance of analytics, beyond the particular models of Open Massive Online Courses. So there will be cases where analytics in organizations such as universities or schools will be used not only to support other mechanisms of power, such as performance management, but also, the very nature of learning through digital means. The nature of this learning – through clicks – has shaped further tensions and need for reflexivity about the implementation of analytics in the sector.

In early 2016, a report, *From Bricks to Clicks: The Potential of Data and Analytics in Higher Education*, published by the Higher Education Commission (2016) in the UK, considers how a mass of information on students can be harnessed to 'empower' staff and students. It envisages a 'culture where data is everyone's asset and everyone's responsibility'. It proposes that all lecturers will be 'empowered to perform their roles well in a digital, data-driven world, and should be provided with appropriate training and support to improve their digital capability and data-management skills'. It argues for the adoption of 'fluid-learning analytics', and paints a picture where surveillance is glorified in the name of 'student engagement' and Teaching Excellence. Collective intelligence, critical reflection and cultural pedagogy are reduced to a datified 'learning process' which is prompted and shaped by imperatives extrinsic to the pursuit of knowledge.

III. Conclusion

Beyond the promotion of 'elite brands' and the preoccupation with standardized measures of external evaluation of institutions

and programmes, social accountability in academic or pedagogical improvement may invite more perspectives for critical analysis of how ongoing political and educational tensions are being negotiated, given the imperatives of contextual environments and cultural relevance, community resilience, sociocultural pedagogy or indeed public scholarship. Yet, if improvement lies in the adoption of reflective practices, massive courses and analytics that are bound to a teleological view of technology and innovation may also lose whatever potential they might have for linking education to critical thinking, and learning to democratic social change.

I have attempted to open up the space for a critical, historically informed debate that account for ongoing tensions and contradictions between openness, value and media technology, particularly as located in advocacy and promotion of education within a new-media-saturated cultural politics. I have reviewed the trajectories of such politics pointing to the ways in which different communication infrastructures and politics condition which contents or processes translate to values around the conduct of public education. I have argued how openness shifted from-ideological dimensions embedded in communitarian models of technology to the enclosed tracking and analytics linked to self-communication metrics, with questions and tensions prevailing with regards to which social relations around education and culture can be reformed, negotiated and contested. Although a movement towards more casual, automatic sensing and a calculative rather than epistemic logic, seems to disregard human-based accountability and voices who are expressive and subjective, the potential of bottom up analytics that put human intelligence and agency at the centre of digital culture can prevail.

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